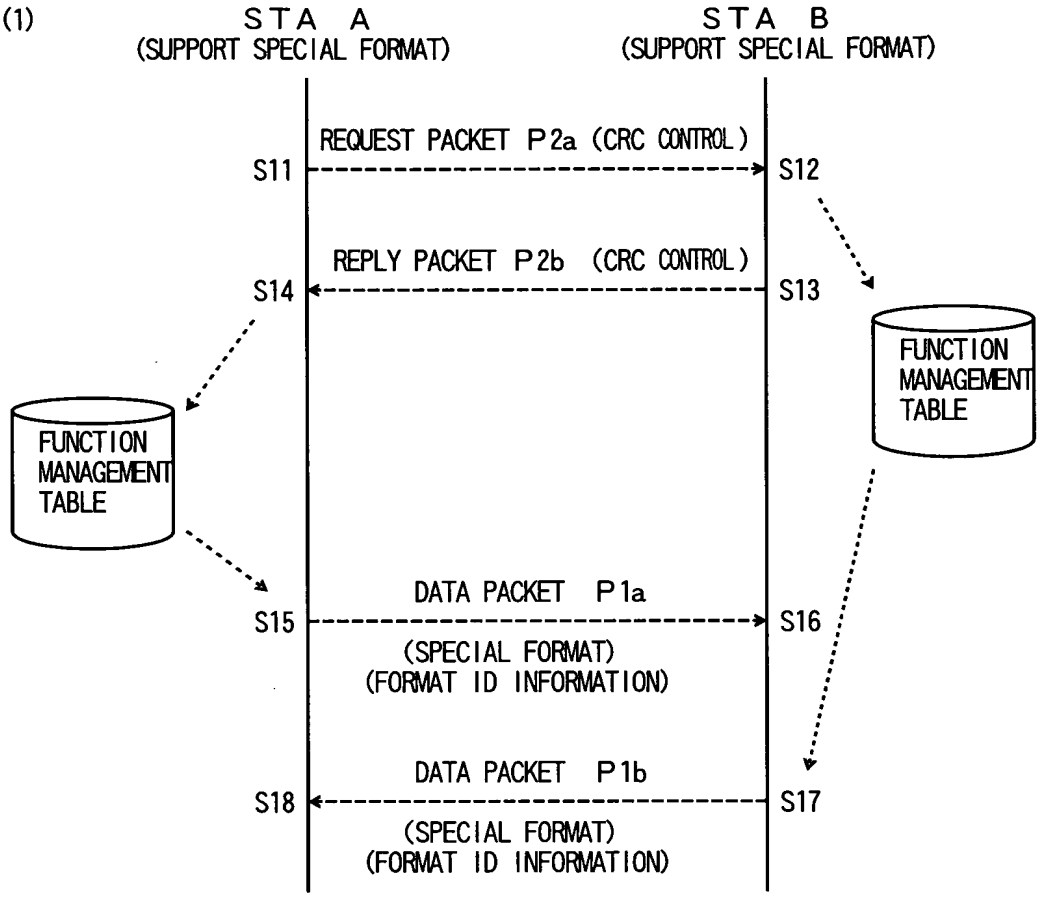
FIG. 1

(1)



(2) FUNCTION MANAGEMENT TABLE

STA ID	TRANSMIT FUNCTION
12345678	SUPPORT SPECIAL FORMAT
23456789	NOT SUPPORT SPECIAL FORMAT
34567890	NOT SUPPORT SPECIAL FORMAT
45678901	SUPPORT SPECIAL FORMAT
⋮	⋮

FIG. 2

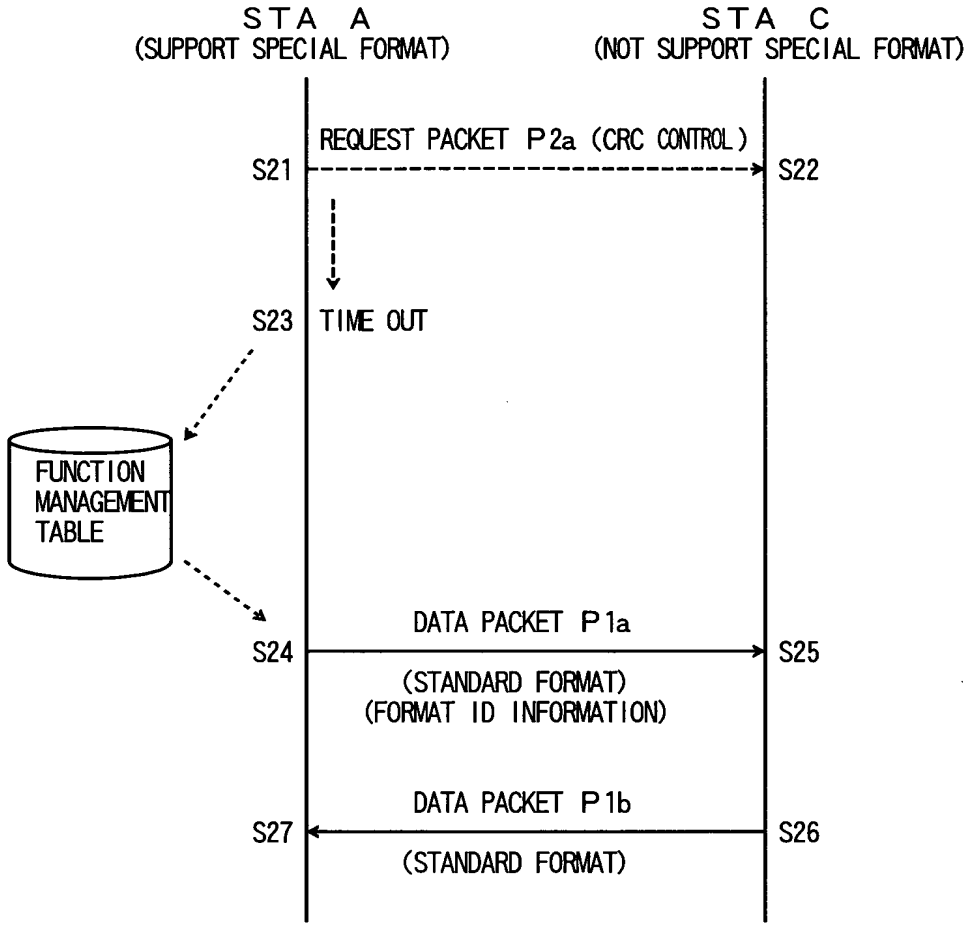

STA A
(SUPPORT SPECIAL FORMAT)
STA C
(NOT SUPPORT SPECIAL FORMAT)
REQUEST PACKET P2a (CRC CONTROL)
S21
S22
S23
TIME OUT
FUNCTION MANAGEMENT TABLE
DATA PACKET P1a
S24
S25
(STANDARD FORMAT)
(FORMAT ID INFORMATION)
DATA PACKET P1b
S27
S26
(STANDARD FORMAT)

FIG. 3

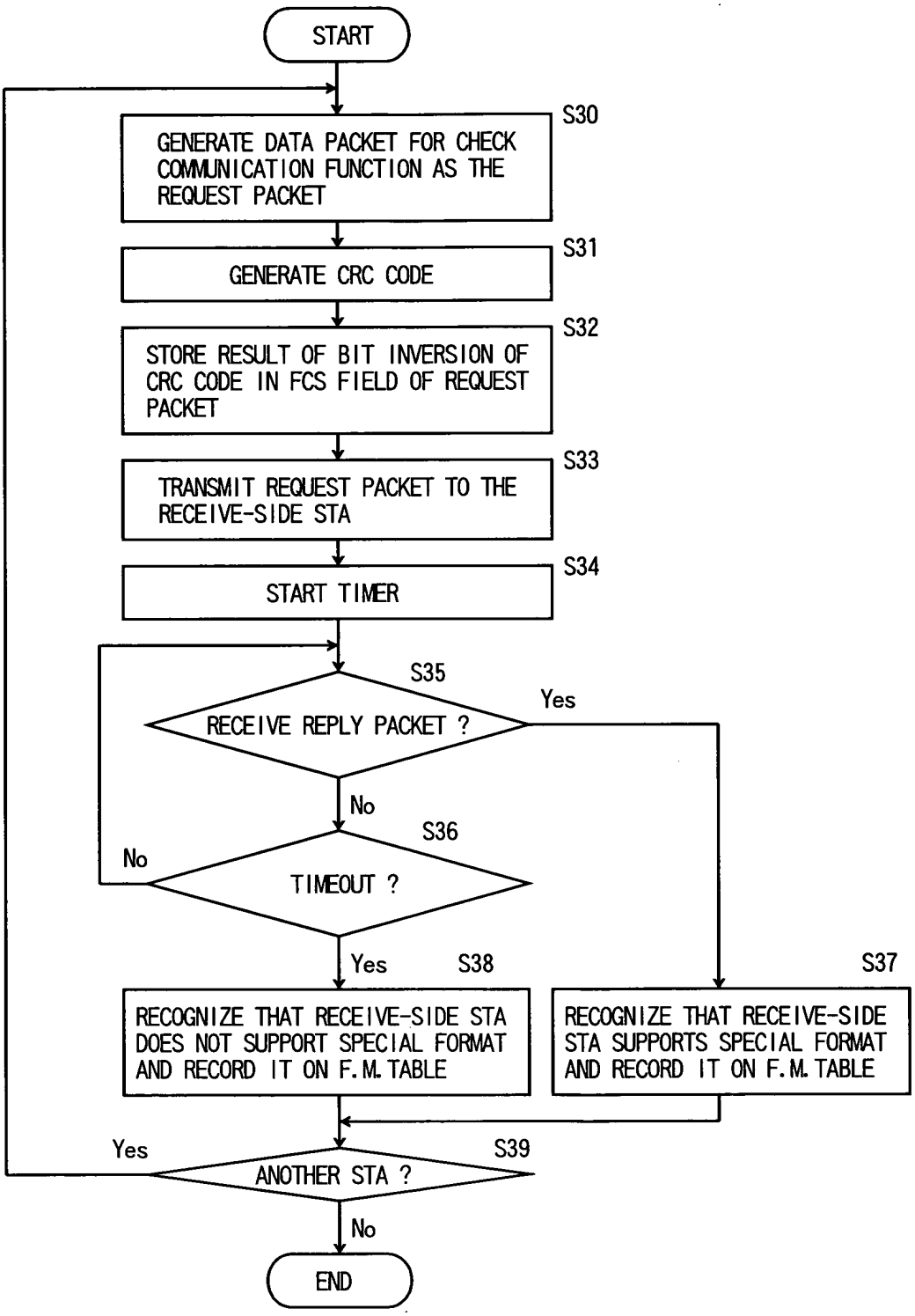

START
S30
GENERATE DATA PACKET FOR CHECK COMMUNICATION FUNCTION AS THE REQUEST PACKET
S31
GENERATE CRC CODE
S32
STORE RESULT OF BIT INVERSION OF CRC CODE IN FCS FIELD OF REQUEST PACKET
S33
TRANSMIT REQUEST PACKET TO THE RECEIVE-SIDE STA
S34
START TIMER
S35
RECEIVE REPLY PACKET ?
Yes
No
S36
No
TIMEOUT ?
Yes
S38
RECOGNIZE THAT RECEIVE-SIDE STA DOES NOT SUPPORT SPECIAL FORMAT AND RECORD IT ON F.M.TABLE
S37
RECOGNIZE THAT RECEIVE-SIDE STA SUPPORTS SPECIAL FORMAT AND RECORD IT ON F.M.TABLE
Yes
S39
ANOTHER STA ?
No
END

FIG. 4

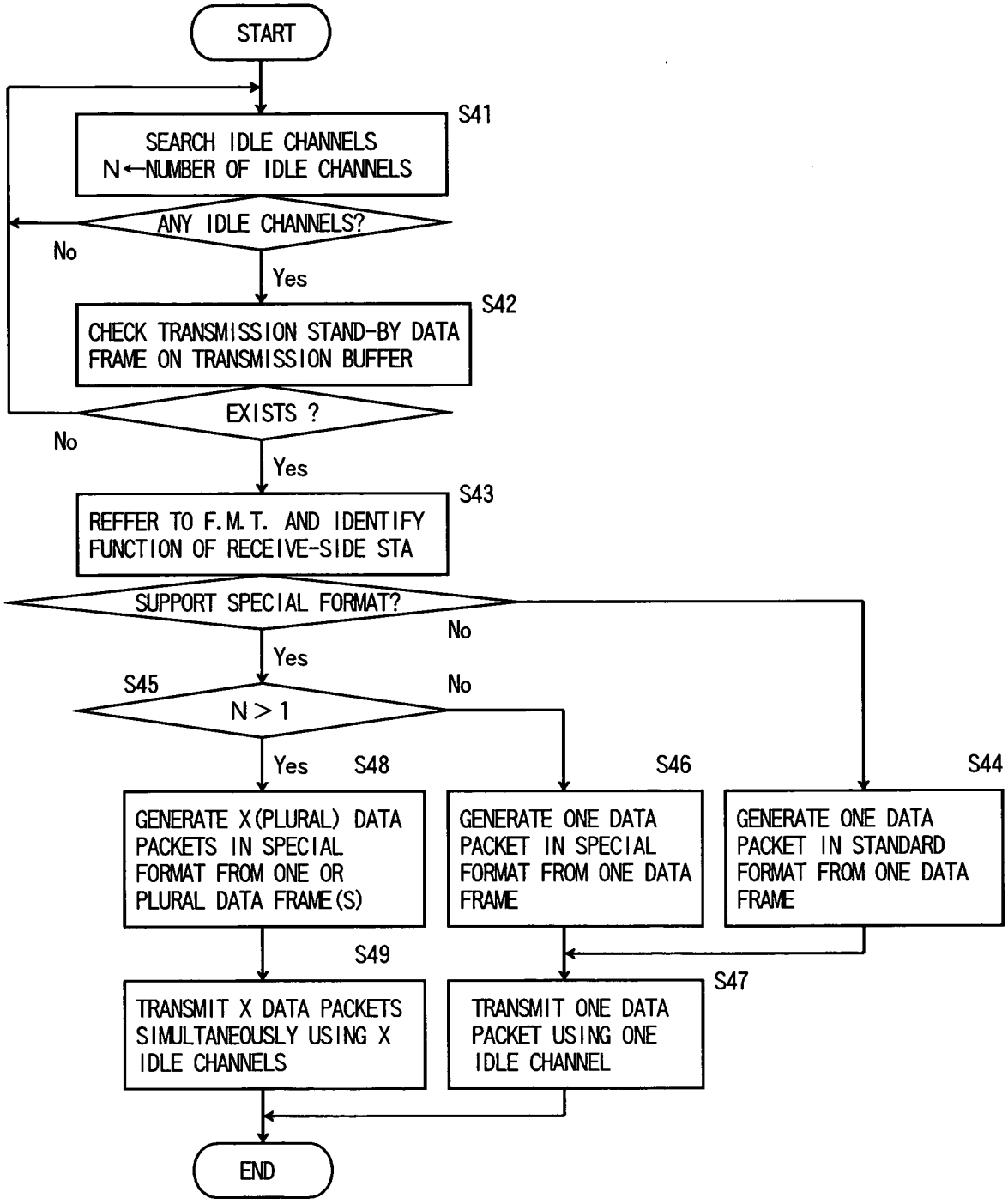

START
S41
SEARCH IDLE CHANNELS
N←NUMBER OF IDLE CHANNELS
ANY IDLE CHANNELS?
No
Yes
S42
CHECK TRANSMISSION STAND-BY DATA FRAME ON TRANSMISSION BUFFER
EXISTS ?
No
Yes
S43
REFFER TO F.M.T. AND IDENTIFY FUNCTION OF RECEIVE-SIDE STA
SUPPORT SPECIAL FORMAT?
No
Yes
S45
N > 1
No
Yes
S48
S46
S44
GENERATE X(PLURAL) DATA PACKETS IN SPECIAL FORMAT FROM ONE OR PLURAL DATA FRAME(S)
GENERATE ONE DATA PACKET IN SPECIAL FORMAT FROM ONE DATA FRAME
GENERATE ONE DATA PACKET IN STANDARD FORMAT FROM ONE DATA FRAME
S49
S47
TRANSMIT X DATA PACKETS SIMULTANEOUSLY USING X IDLE CHANNELS
TRANSMIT ONE DATA PACKET USING ONE IDLE CHANNEL
END

FIG. 5

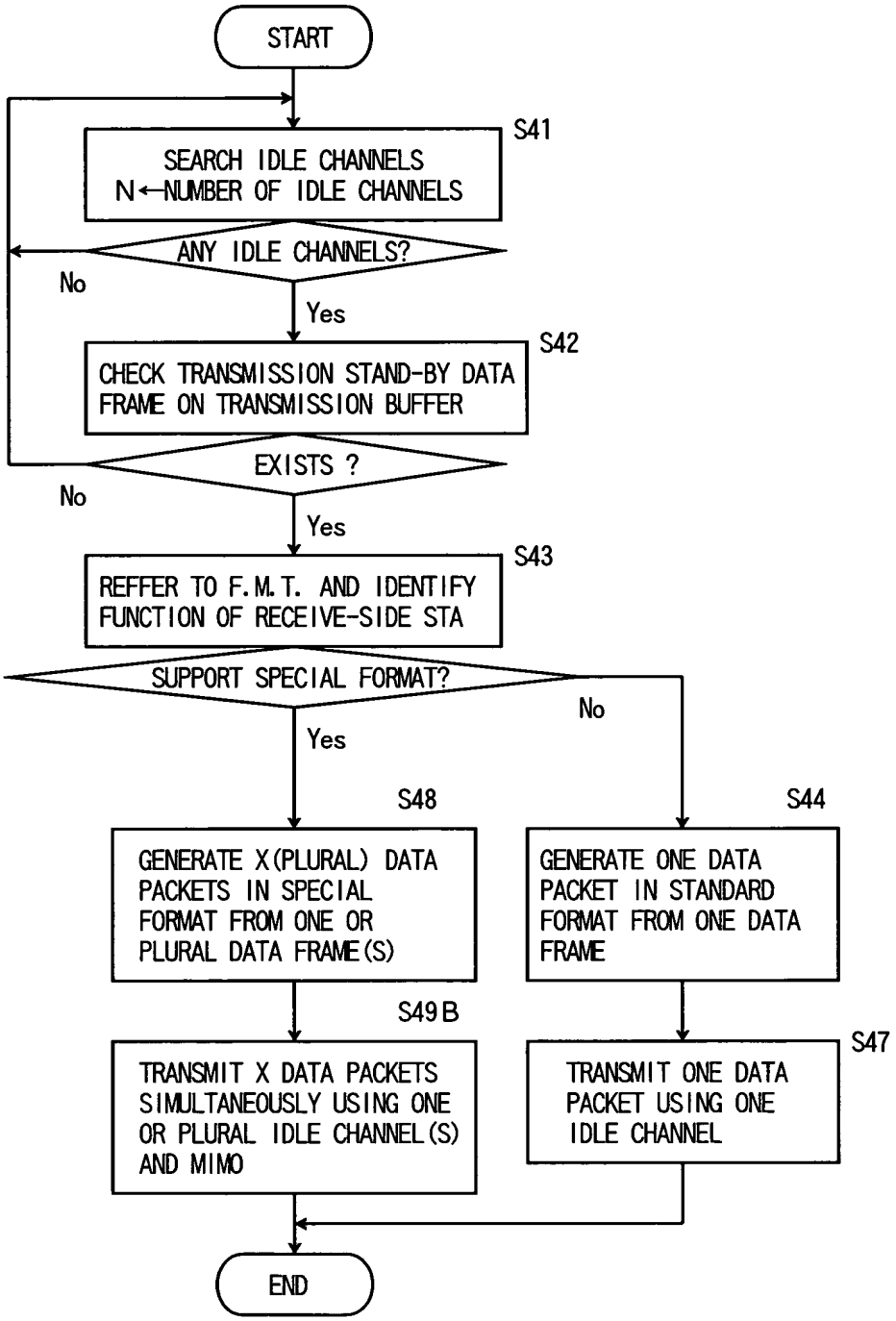

START
S41
SEARCH IDLE CHANNELS
N←NUMBER OF IDLE CHANNELS
ANY IDLE CHANNELS?
No
Yes
S42
CHECK TRANSMISSION STAND-BY DATA FRAME ON TRANSMISSION BUFFER
EXISTS ?
No
Yes
S43
REFFER TO F.M.T. AND IDENTIFY FUNCTION OF RECEIVE-SIDE STA
SUPPORT SPECIAL FORMAT?
No
Yes
S48
GENERATE X(PLURAL) DATA PACKETS IN SPECIAL FORMAT FROM ONE OR PLURAL DATA FRAME(S)
S44
GENERATE ONE DATA PACKET IN STANDARD FORMAT FROM ONE DATA FRAME
S49B
TRANSMIT X DATA PACKETS SIMULTANEOUSLY USING ONE OR PLURAL IDLE CHANNEL(S) AND MIMO
S47
TRANSMIT ONE DATA PACKET USING ONE IDLE CHANNEL
END

FIG. 6

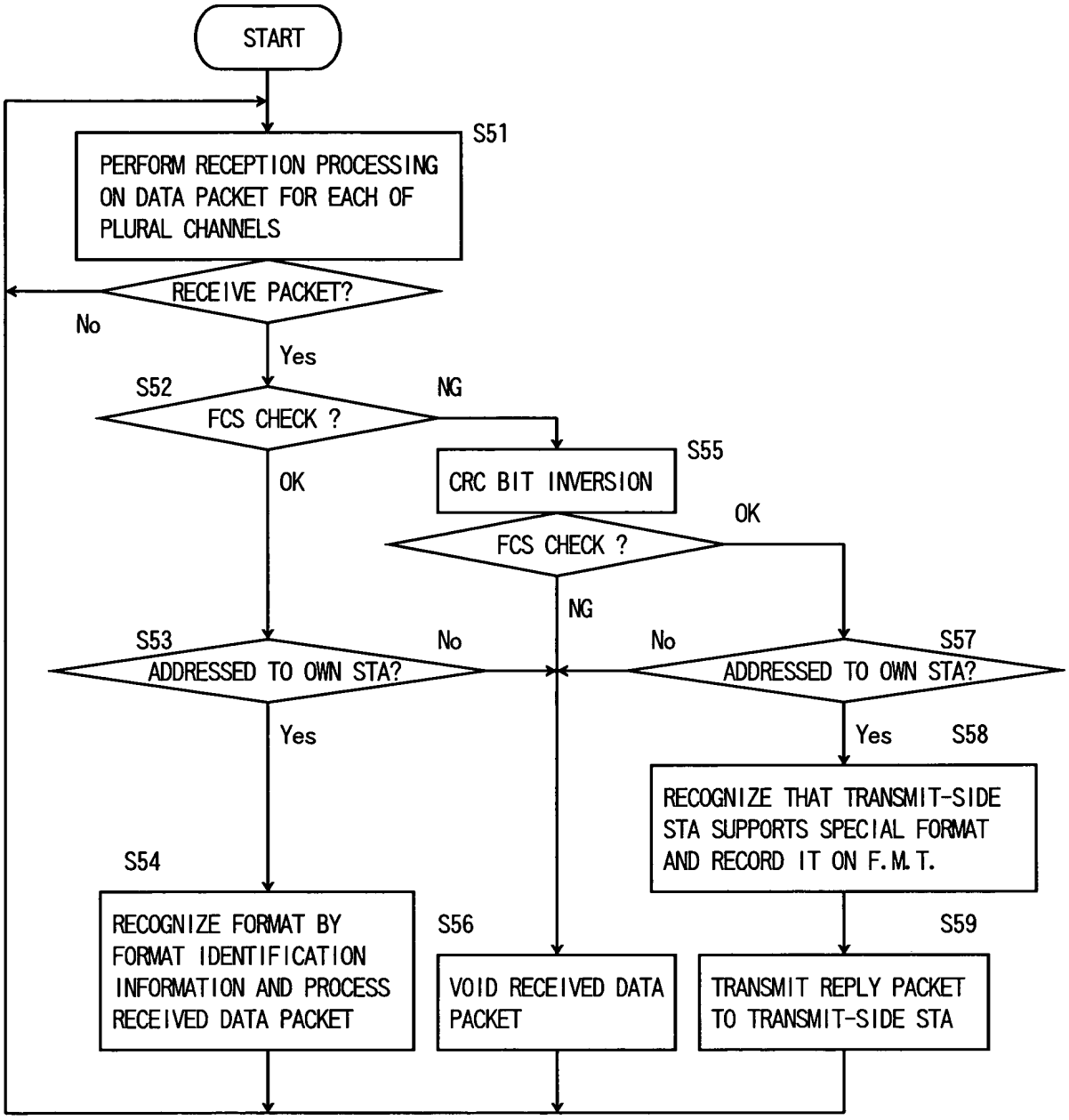

START
S51
PERFORM RECEPTION PROCESSING ON DATA PACKET FOR EACH OF PLURAL CHANNELS
RECEIVE PACKET?
No
Yes
S52
FCS CHECK ?
NG
OK
S55
CRC BIT INVERSION
FCS CHECK ?
OK
NG
S53
ADDRESSED TO OWN STA?
No
No
S57
ADDRESSED TO OWN STA?
Yes
Yes
S58
RECOGNIZE THAT TRANSMIT-SIDE STA SUPPORTS SPECIAL FORMAT AND RECORD IT ON F.M.T.
S54
RECOGNIZE FORMAT BY FORMAT IDENTIFICATION INFORMATION AND PROCESS RECEIVED DATA PACKET
S56
VOID RECEIVED DATA PACKET
S59
TRANSMIT REPLY PACKET TO TRANSMIT-SIDE STA

FIG. 7

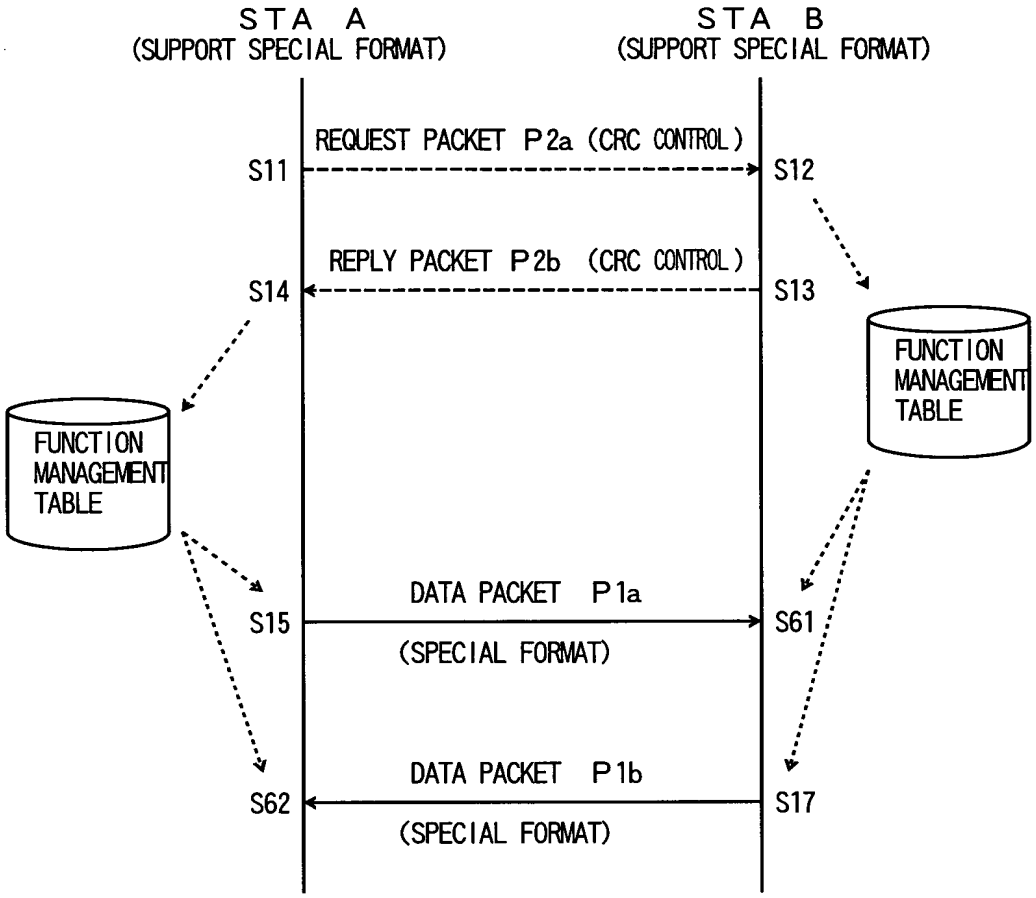

STA A
(SUPPORT SPECIAL FORMAT)
STA B
(SUPPORT SPECIAL FORMAT)
REQUEST PACKET P2a (CRC CONTROL)
S11
S12
REPLY PACKET P2b (CRC CONTROL)
S14
S13
FUNCTION MANAGEMENT TABLE
FUNCTION MANAGEMENT TABLE
DATA PACKET P1a
S15
S61
(SPECIAL FORMAT)
DATA PACKET P1b
S62
S17
(SPECIAL FORMAT)

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FIG. 8

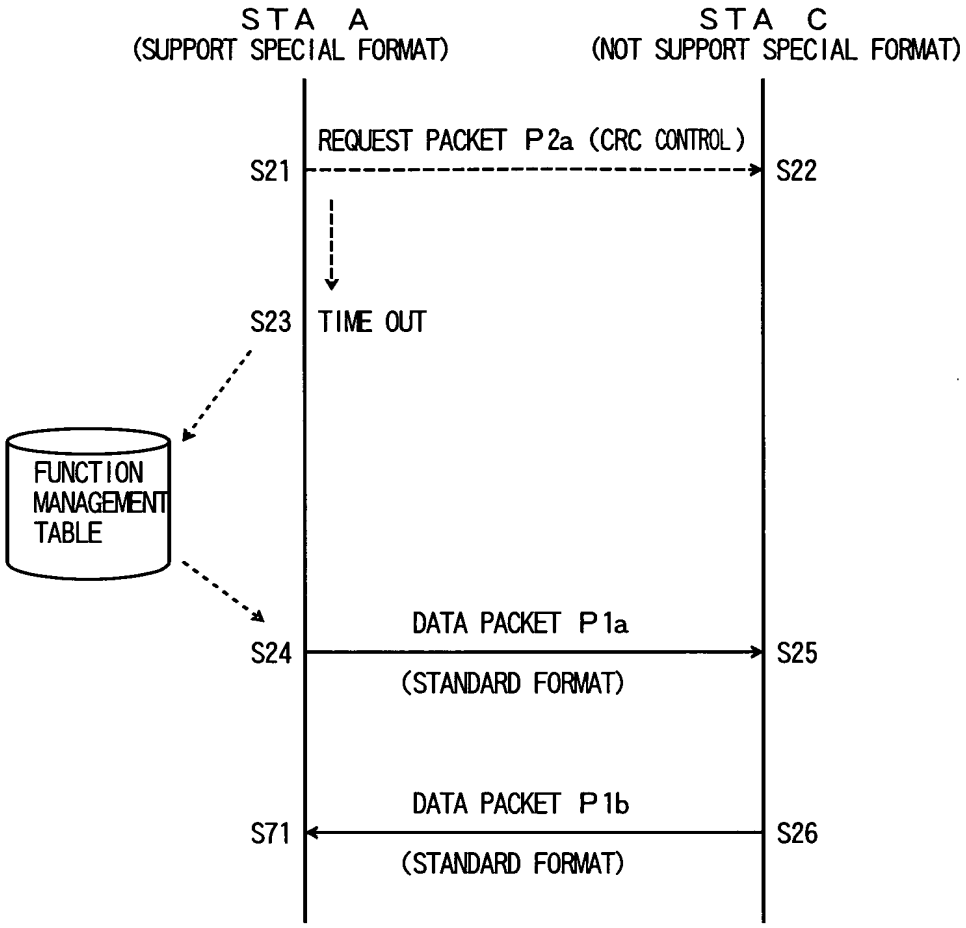

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FIG. 9

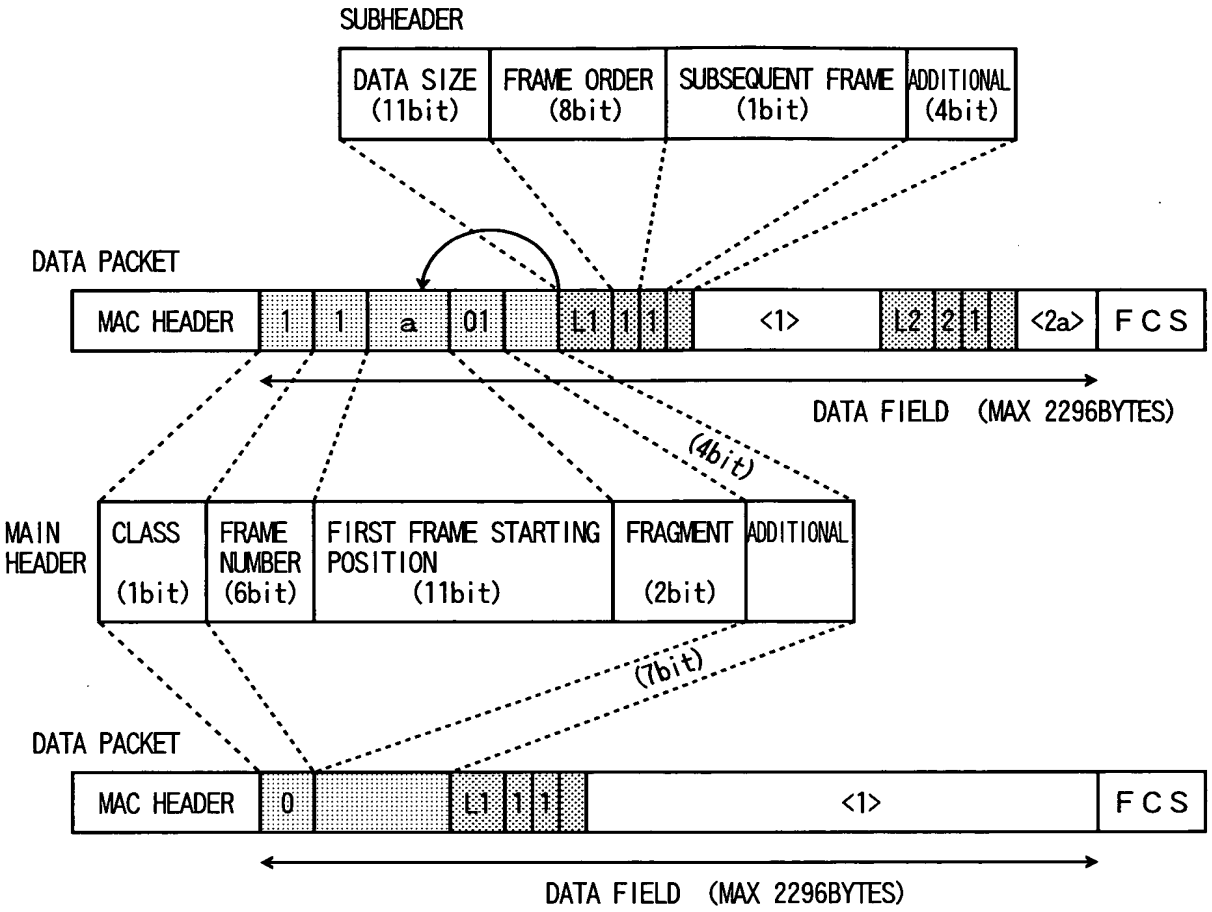

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FIG. 10

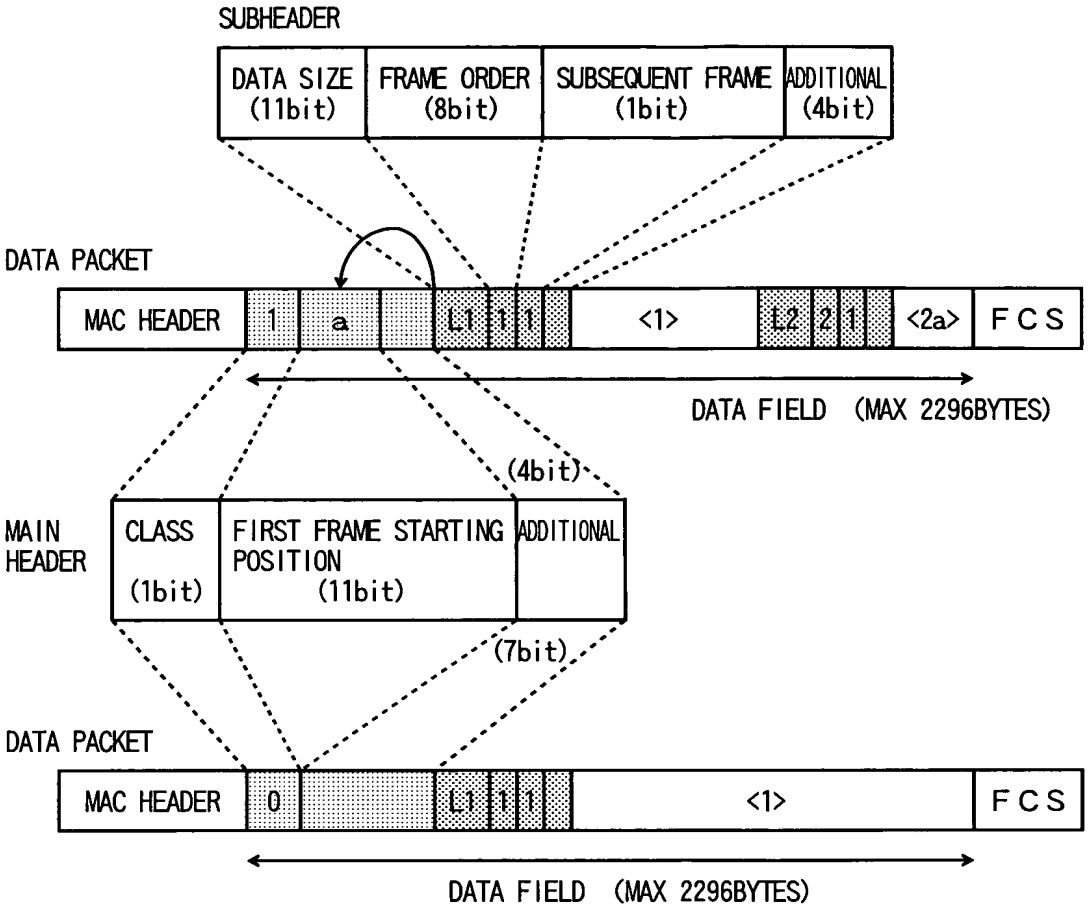
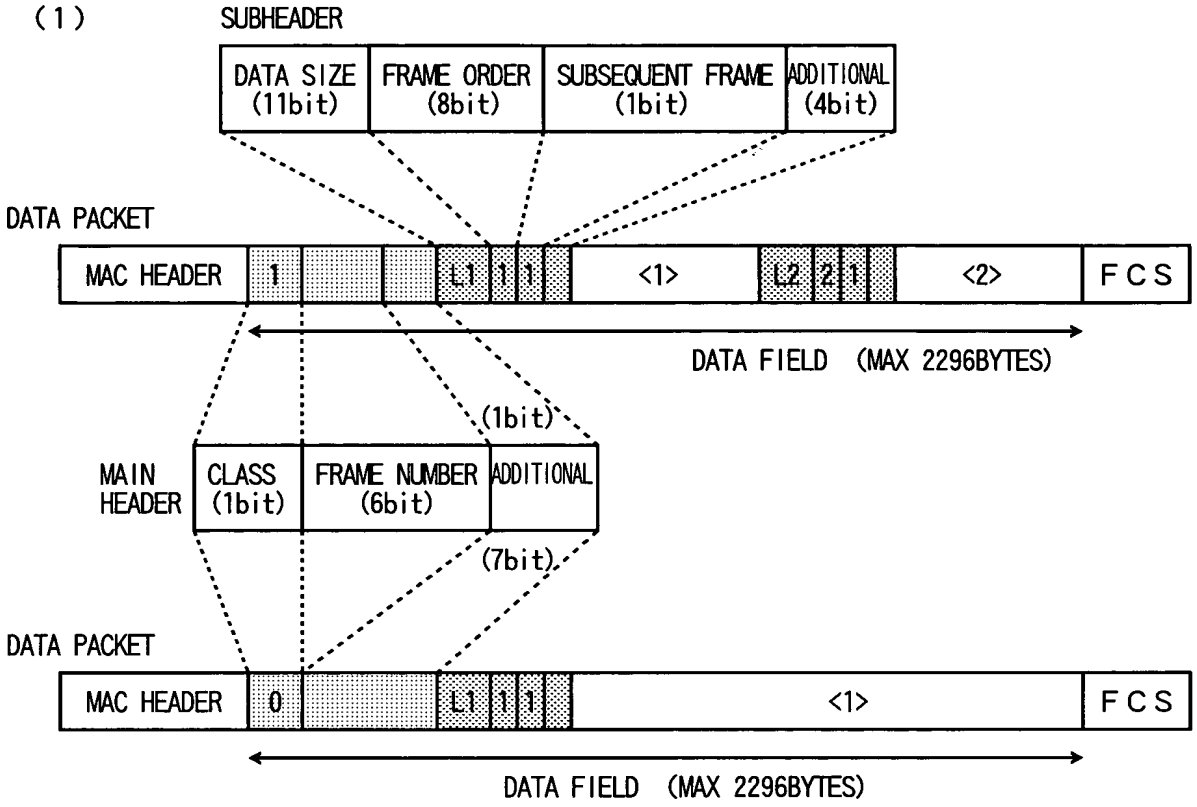


FIG. 11


(1)
SUBHEADER
DATA SIZE (11bit)
FRAME ORDER (8bit)
SUBSEQUENT FRAME (1bit)
ADDITIONAL (4bit)
DATA PACKET
MAC HEADER
1
L1
1
1
<1>
L2
2
1
<2>
FCS
DATA FIELD (MAX 2296BYTES)
(1bit)
MAIN HEADER
CLASS (1bit)
FRAME NUMBER (6bit)
ADDITIONAL
(7bit)
DATA PACKET
MAC HEADER
0
L1
1
1
<1>
FCS
DATA FIELD (MAX 2296BYTES)

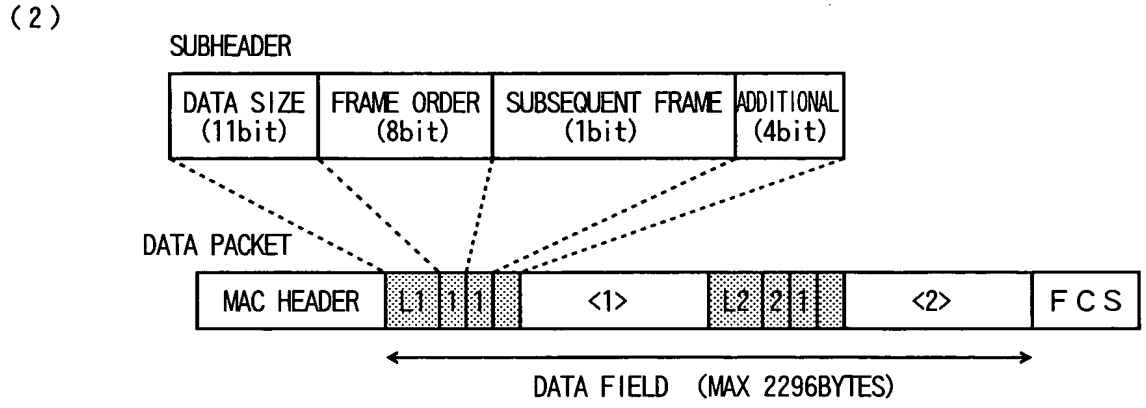

(2)
SUBHEADER
DATA SIZE (11bit)
FRAME ORDER (8bit)
SUBSEQUENT FRAME (1bit)
ADDITIONAL (4bit)
DATA PACKET
MAC HEADER
L1
1
1
<1>
L2
2
1
<2>
FCS
DATA FIELD (MAX 2296BYTES)

FIG. 12

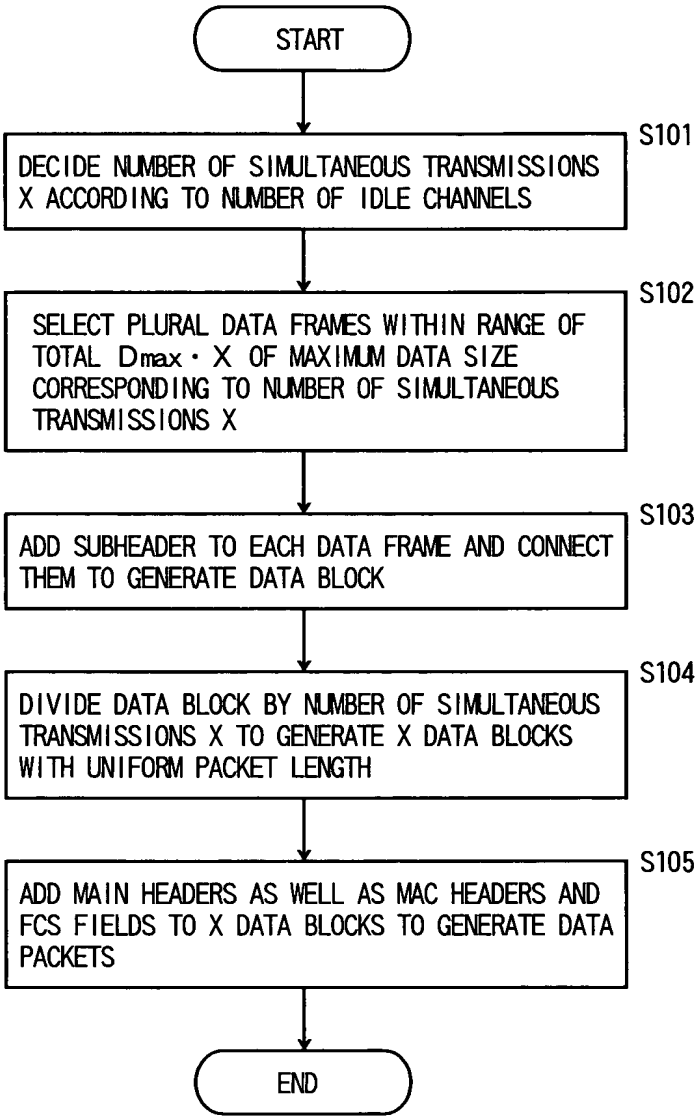

START
DECIDE NUMBER OF SIMULTANEOUS TRANSMISSIONS X ACCORDING TO NUMBER OF IDLE CHANNELS
S101
SELECT PLURAL DATA FRAMES WITHIN RANGE OF TOTAL Dmax・X OF MAXIMUM DATA SIZE CORRESPONDING TO NUMBER OF SIMULTANEOUS TRANSMISSIONS X
S102
ADD SUBHEADER TO EACH DATA FRAME AND CONNECT THEM TO GENERATE DATA BLOCK
S103
DIVIDE DATA BLOCK BY NUMBER OF SIMULTANEOUS TRANSMISSIONS X TO GENERATE X DATA BLOCKS WITH UNIFORM PACKET LENGTH
S104
ADD MAIN HEADERS AS WELL AS MAC HEADERS AND FCS FIELDS TO X DATA BLOCKS TO GENERATE DATA PACKETS
S105
END

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FIG. 13

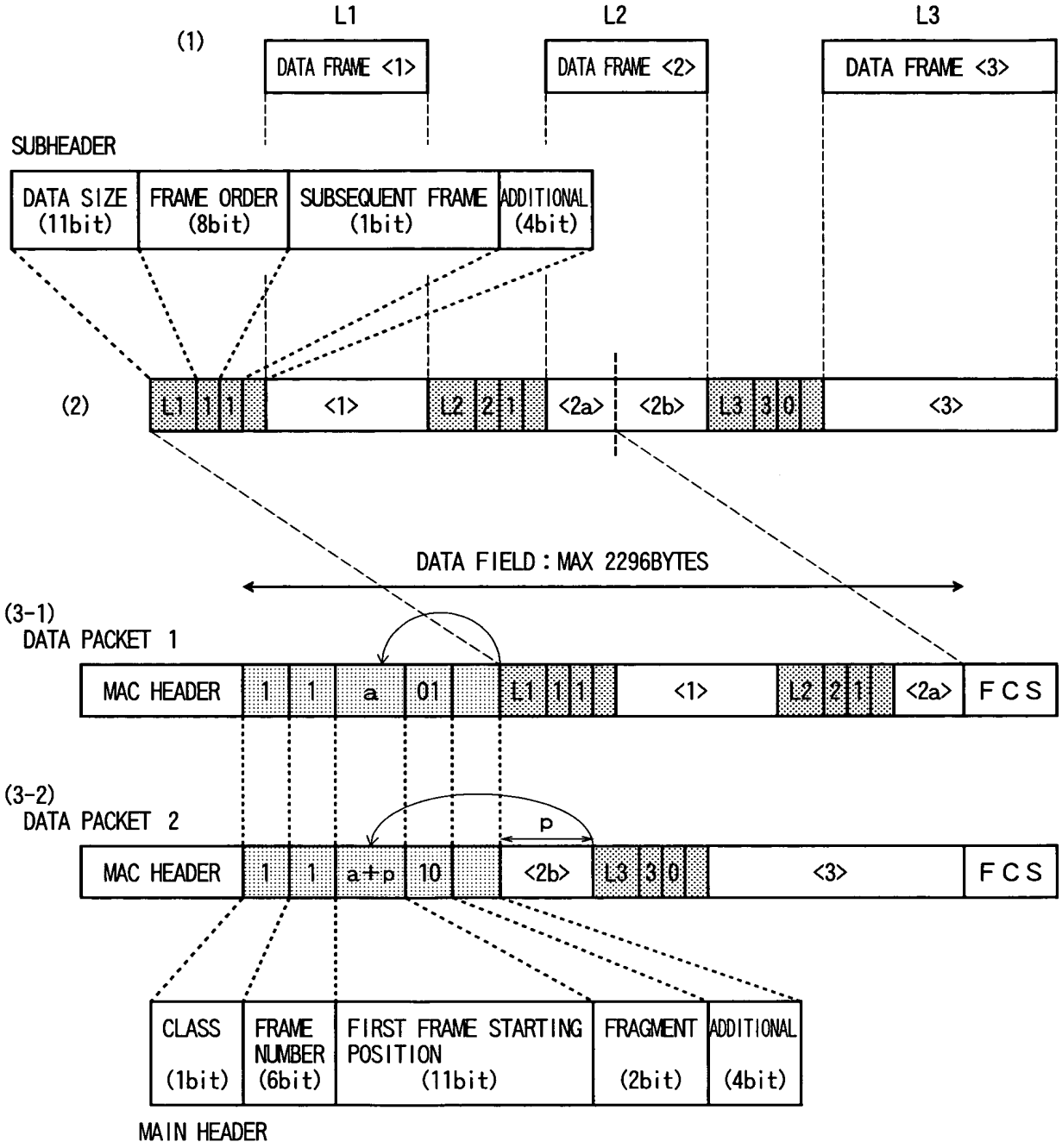

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FIG. 14

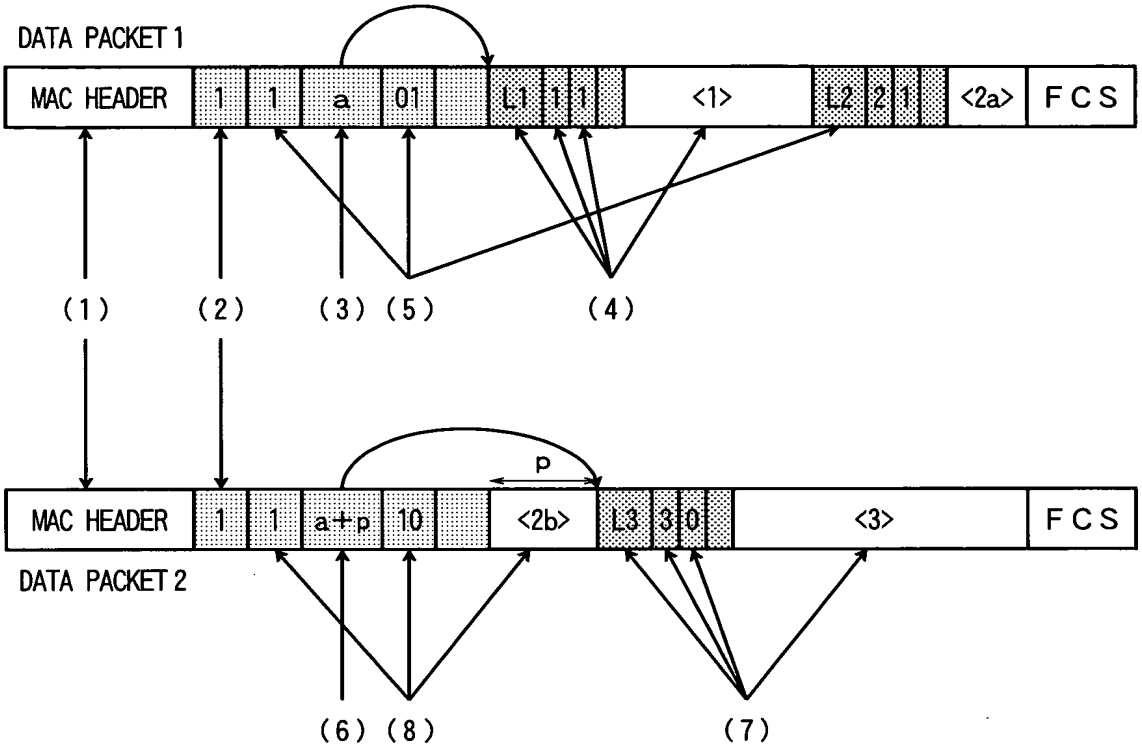

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FIG. 15

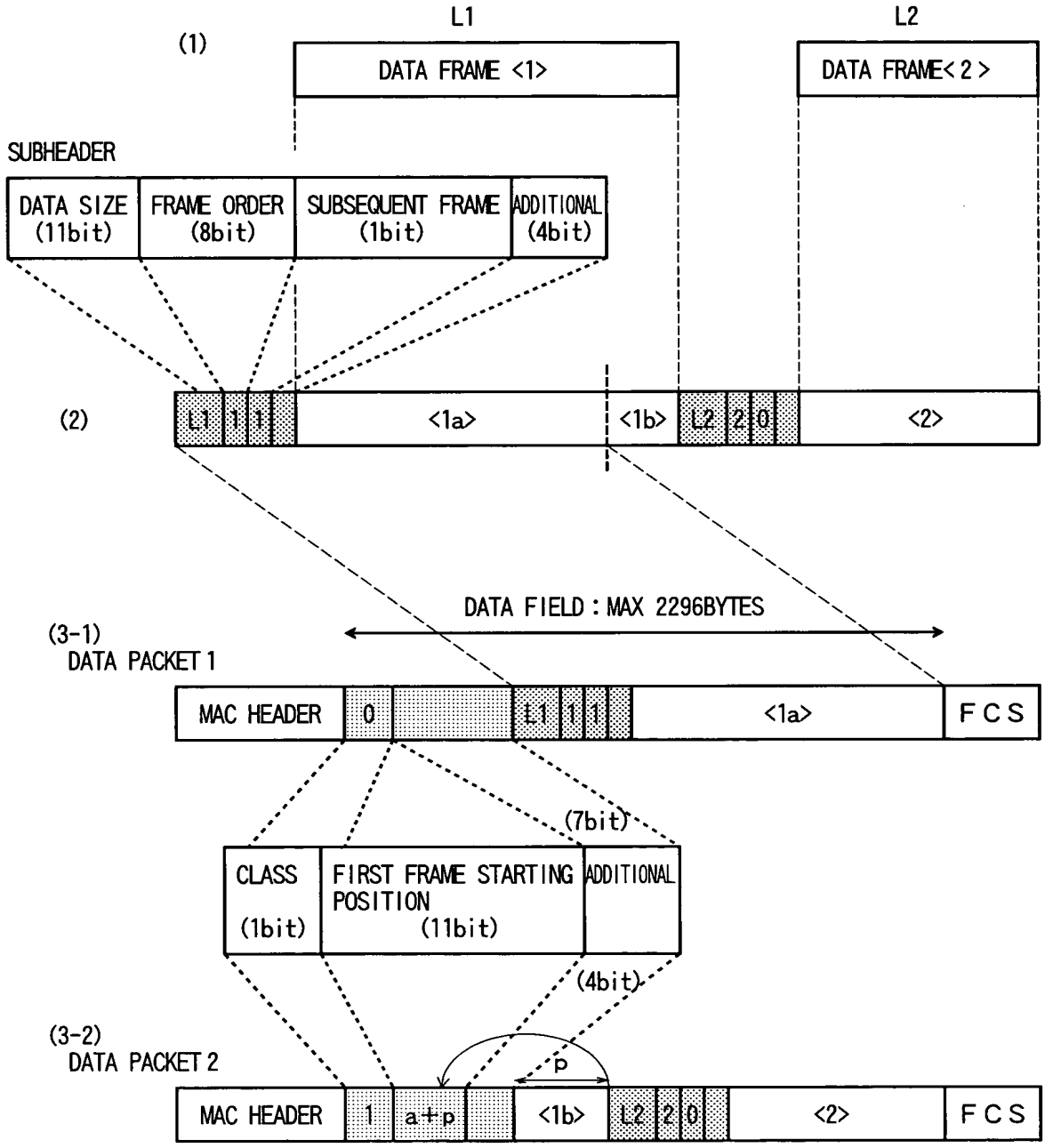

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FIG. 16

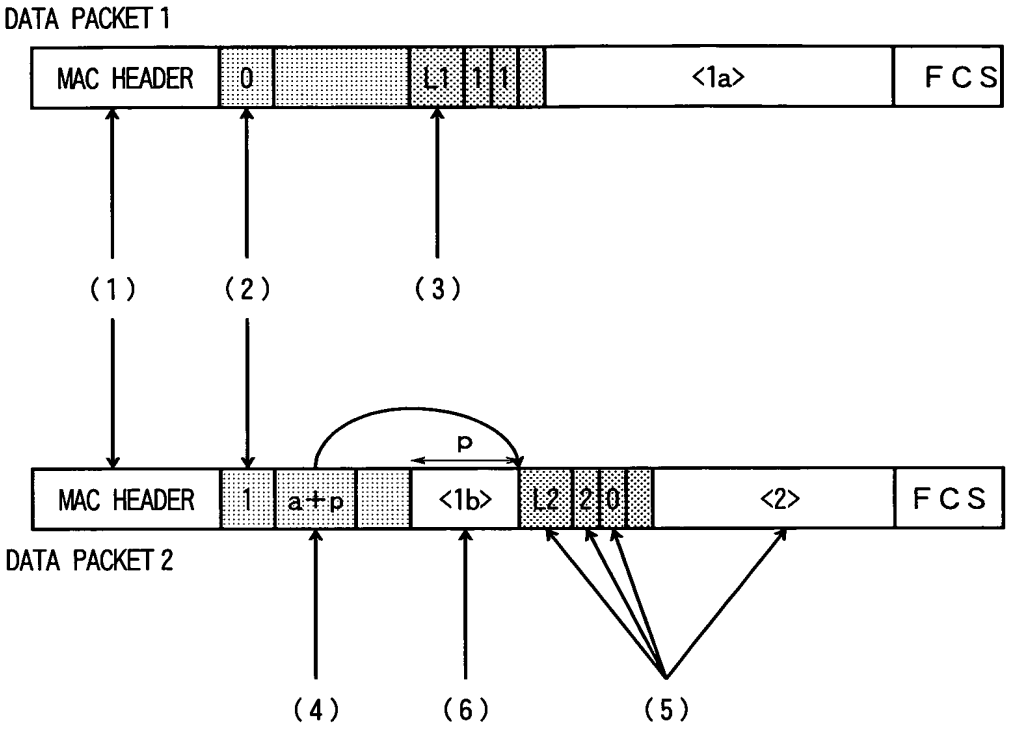

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FIG. 17

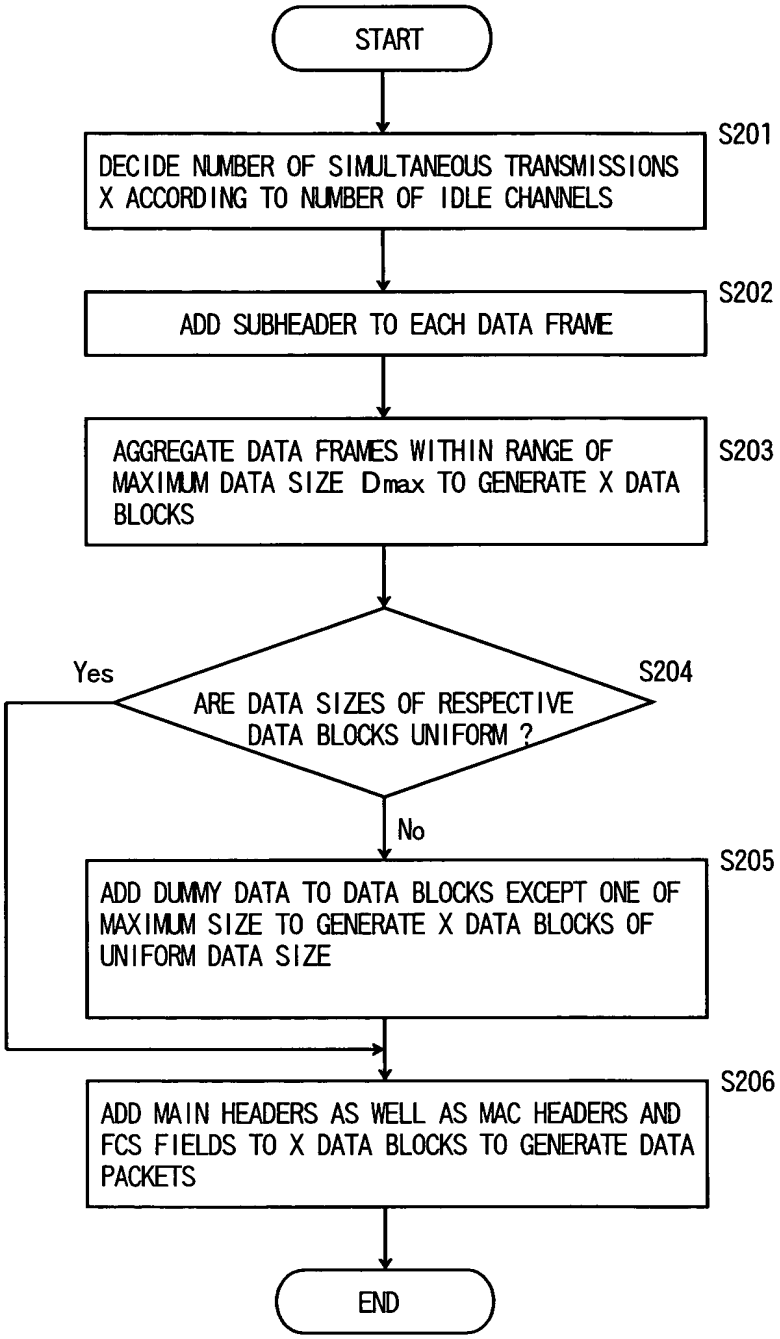
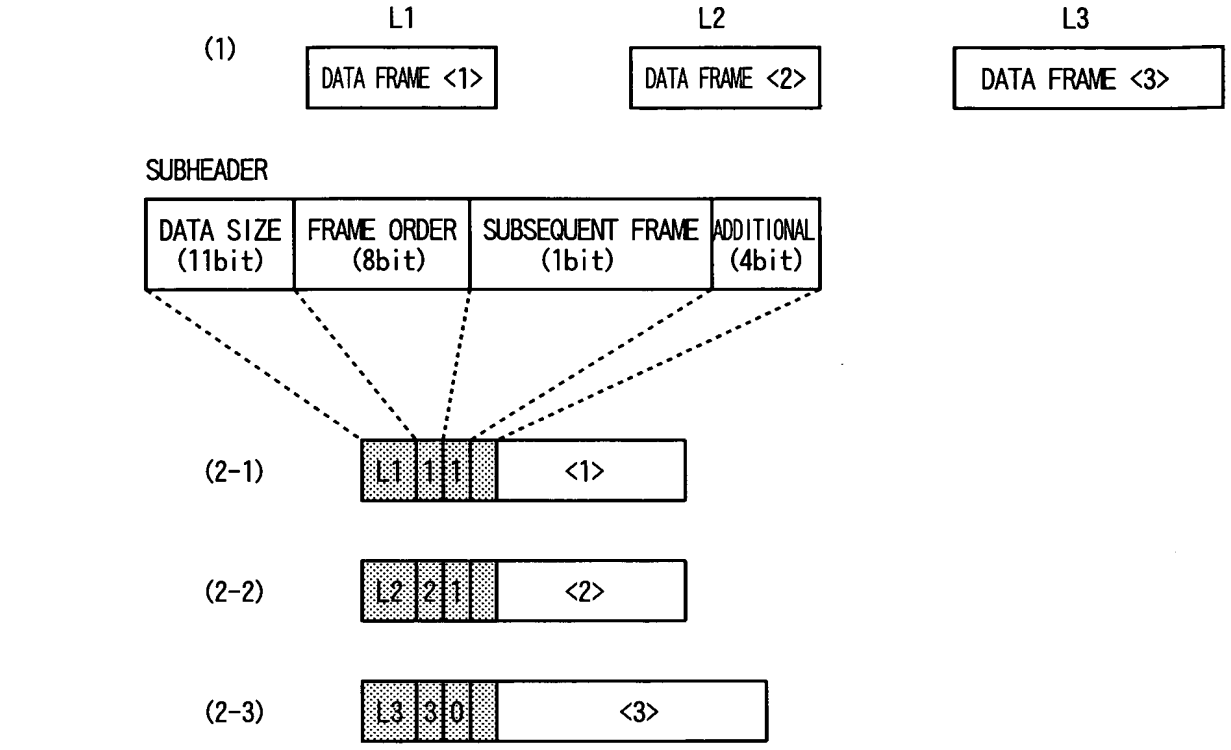


FIG. 18


(1)
L1
L2
L3
DATA FRAME <1>
DATA FRAME <2>
DATA FRAME <3>
SUBHEADER
DATA SIZE (11bit)
FRAME ORDER (8bit)
SUBSEQUENT FRAME (1bit)
ADDITIONAL (4bit)
(2-1)
L1 1 1
<1>
(2-2)
L2 2 1
<2>
(2-3)
L3 3 0
<3>

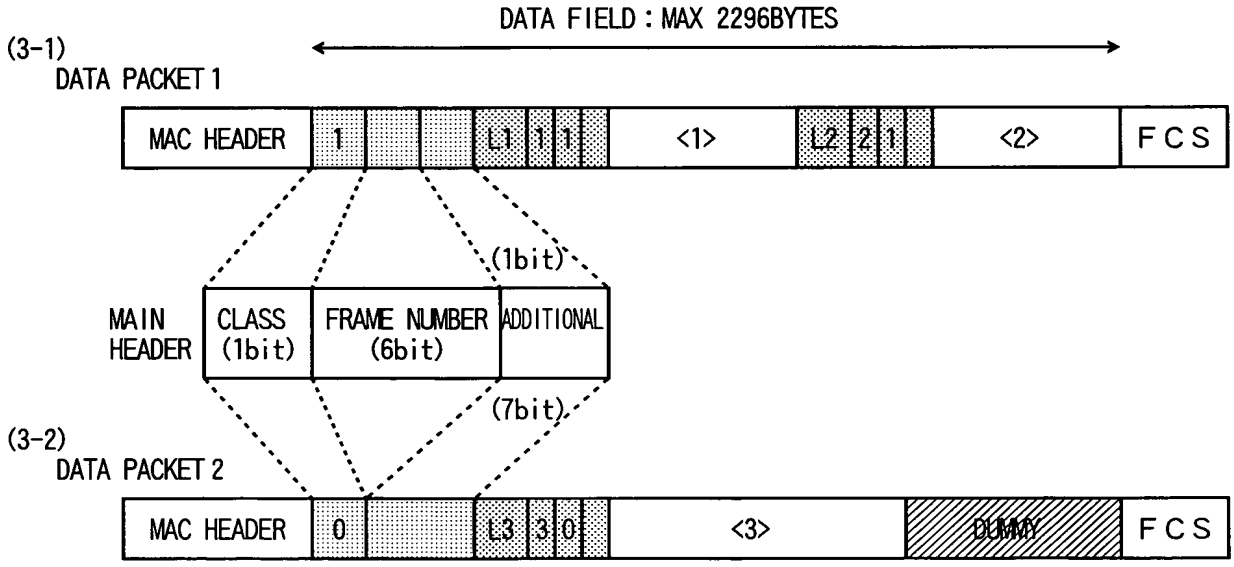

DATA FIELD : MAX 2296BYTES
(3-1)
DATA PACKET 1
MAC HEADER
1
L1 1 1
<1>
L2 2 1
<2>
FCS
(1bit)
MAIN HEADER
CLASS (1bit)
FRAME NUMBER (6bit)
ADDITIONAL
(7bit)
(3-2)
DATA PACKET 2
MAC HEADER
0
L3 3 0
<3>
DUMMY
FCS

FIG. 19

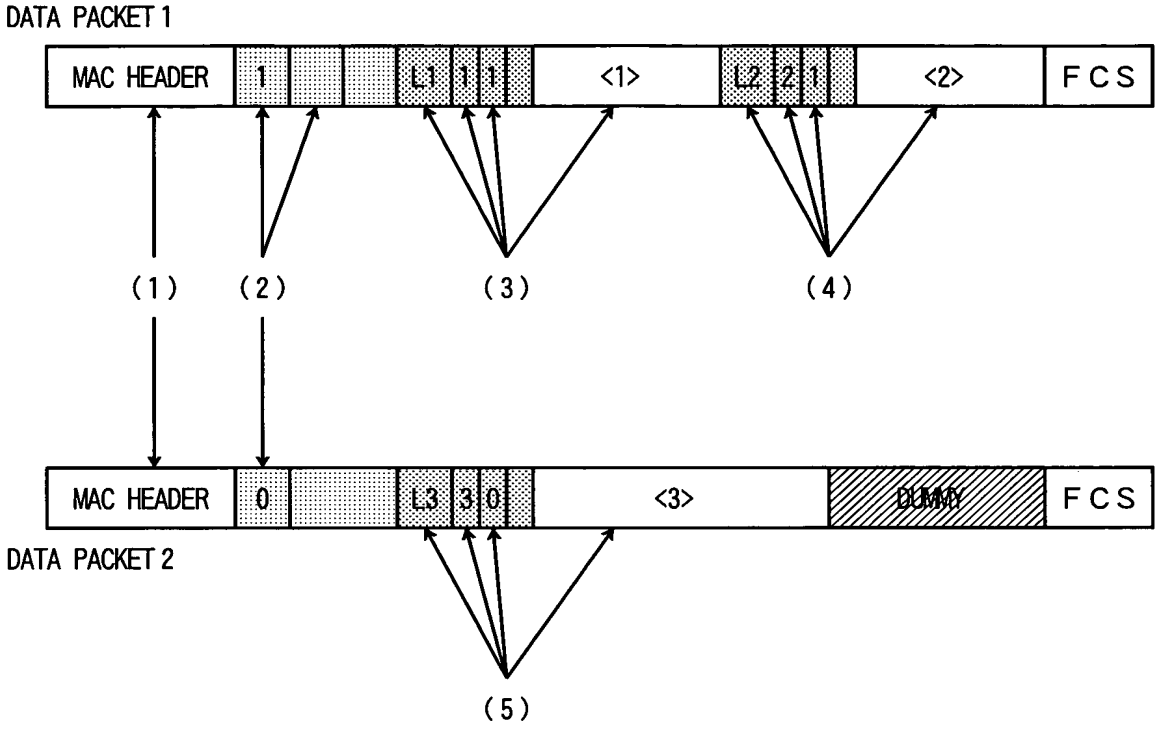
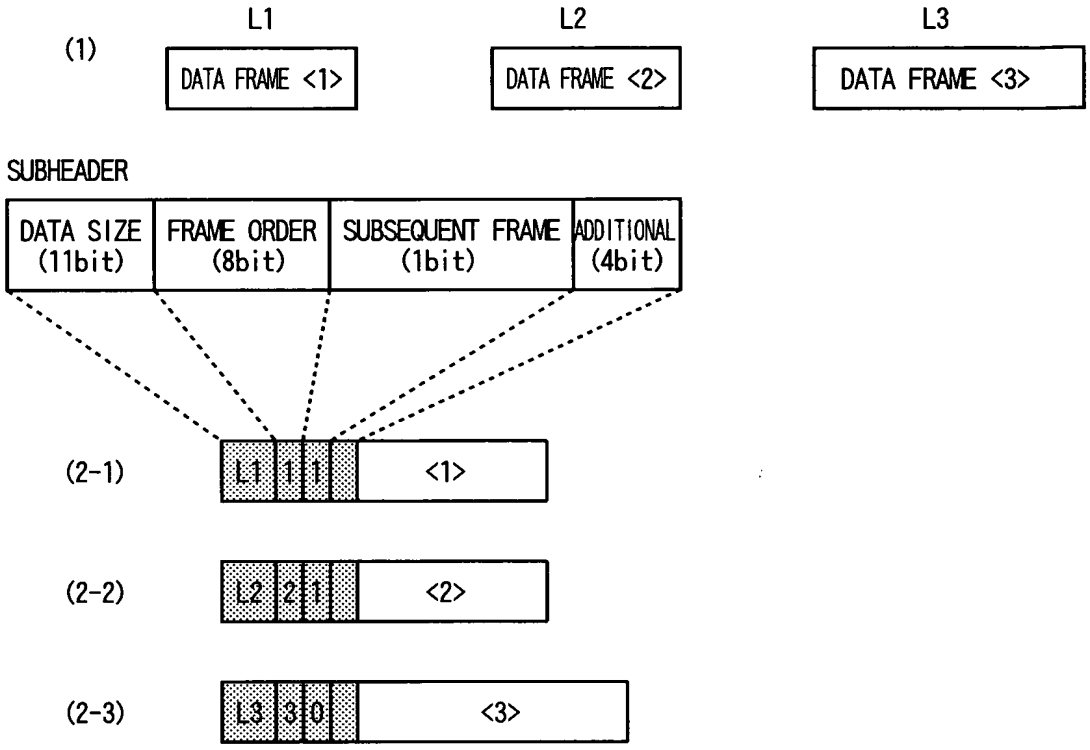

DATA PACKET 1
MAC HEADER
1
L1
1
1
<1>
L2
2
1
<2>
FCS
(1)
(2)
(3)
(4)
MAC HEADER
0
L3
3
0
<3>
DUMMY
FCS
DATA PACKET 2
(5)

FIG. 20


(1)
L1
DATA FRAME <1>
L2
DATA FRAME <2>
L3
DATA FRAME <3>
SUBHEADER
DATA SIZE (11bit)
FRAME ORDER (8bit)
SUBSEQUENT FRAME (1bit)
ADDITIONAL (4bit)
(2-1)
L1 1 1
<1>
(2-2)
L2 2 1
<2>
(2-3)
L3 3 0
<3>

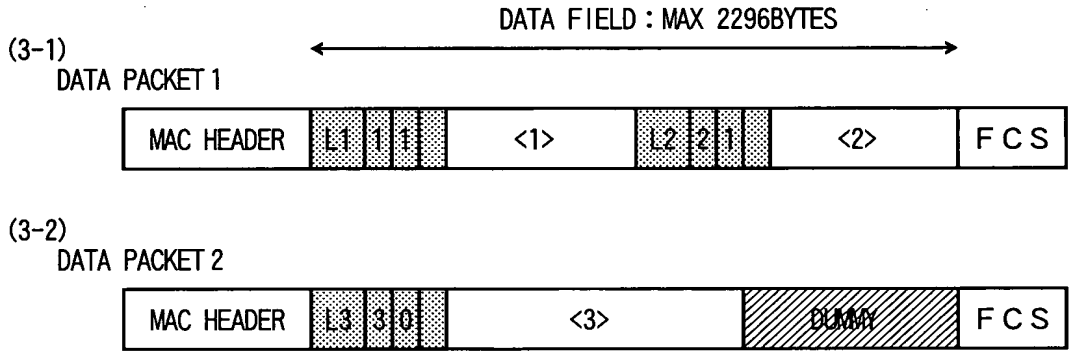

DATA FIELD : MAX 2296BYTES
(3-1)
DATA PACKET 1
MAC HEADER
L1 1 1
<1>
L2 2 1
<2>
FCS
(3-2)
DATA PACKET 2
MAC HEADER
L3 3 0
<3>
DUMMY
FCS

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FIG. 21

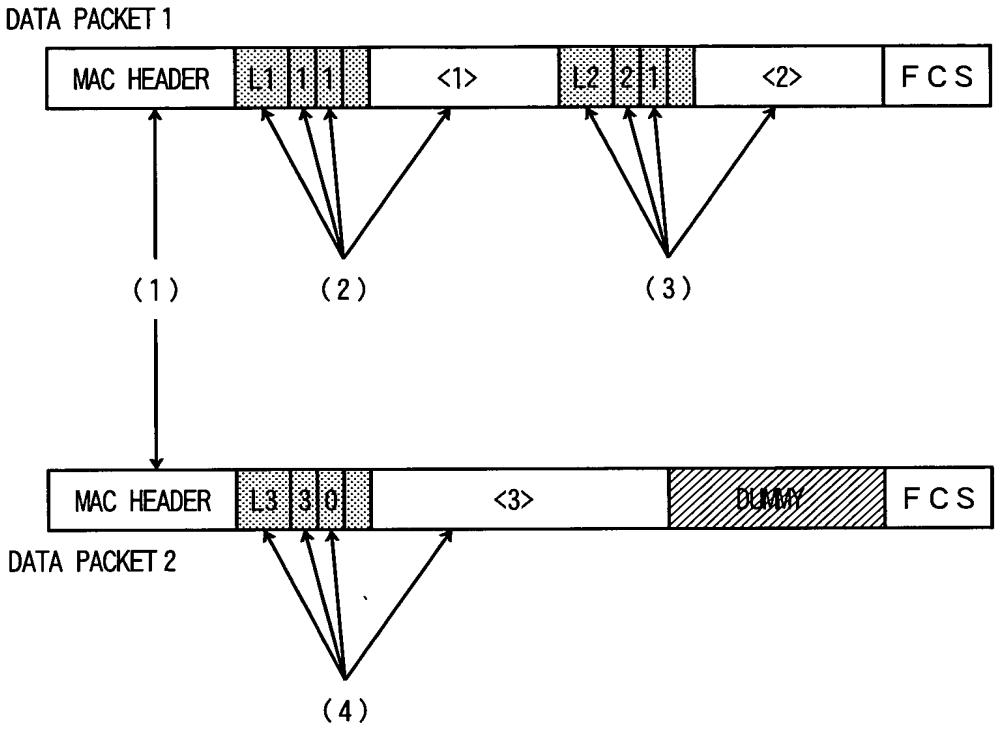

FIG. 22

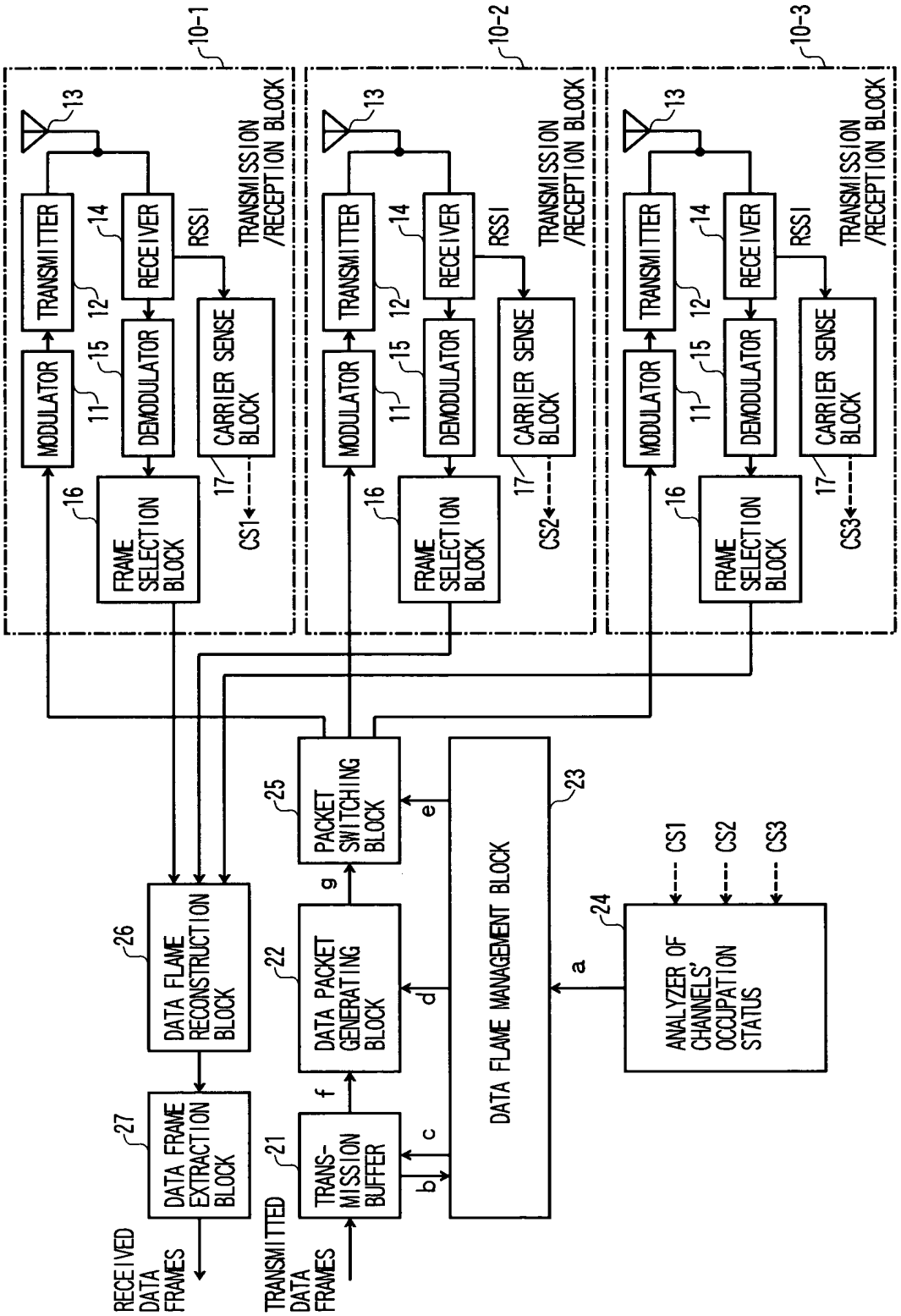
10-1
10-2
10-3
13
TRANSMITTER
12
RECEIVER
14
RSSI
TRANSMISSION /RECEPTION BLOCK
MODULATOR
11
DEMODULATOR
15
CARRIER SENSE BLOCK
17
CS1
CS2
CS3
FRAME SELECTION BLOCK
16
PACKET SWITCHING BLOCK
25
DATA FLAME RECONSTRUCTION BLOCK
26
DATA PACKET GENERATING BLOCK
22
DATA FRAME EXTRACTION BLOCK
27
TRANS-MISSION BUFFER
21
DATA FLAME MANAGEMENT BLOCK
23
ANALYZER OF CHANNELS' OCCUPATION STATUS
24
a
b
c
d
e
f
g
RECEIVED DATA FRAMES
TRANSMITTED DATA FRAMES

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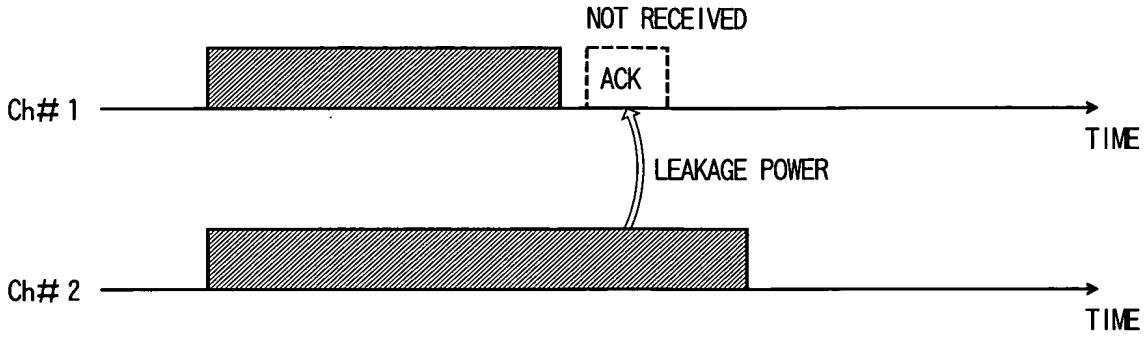
FIG. 23



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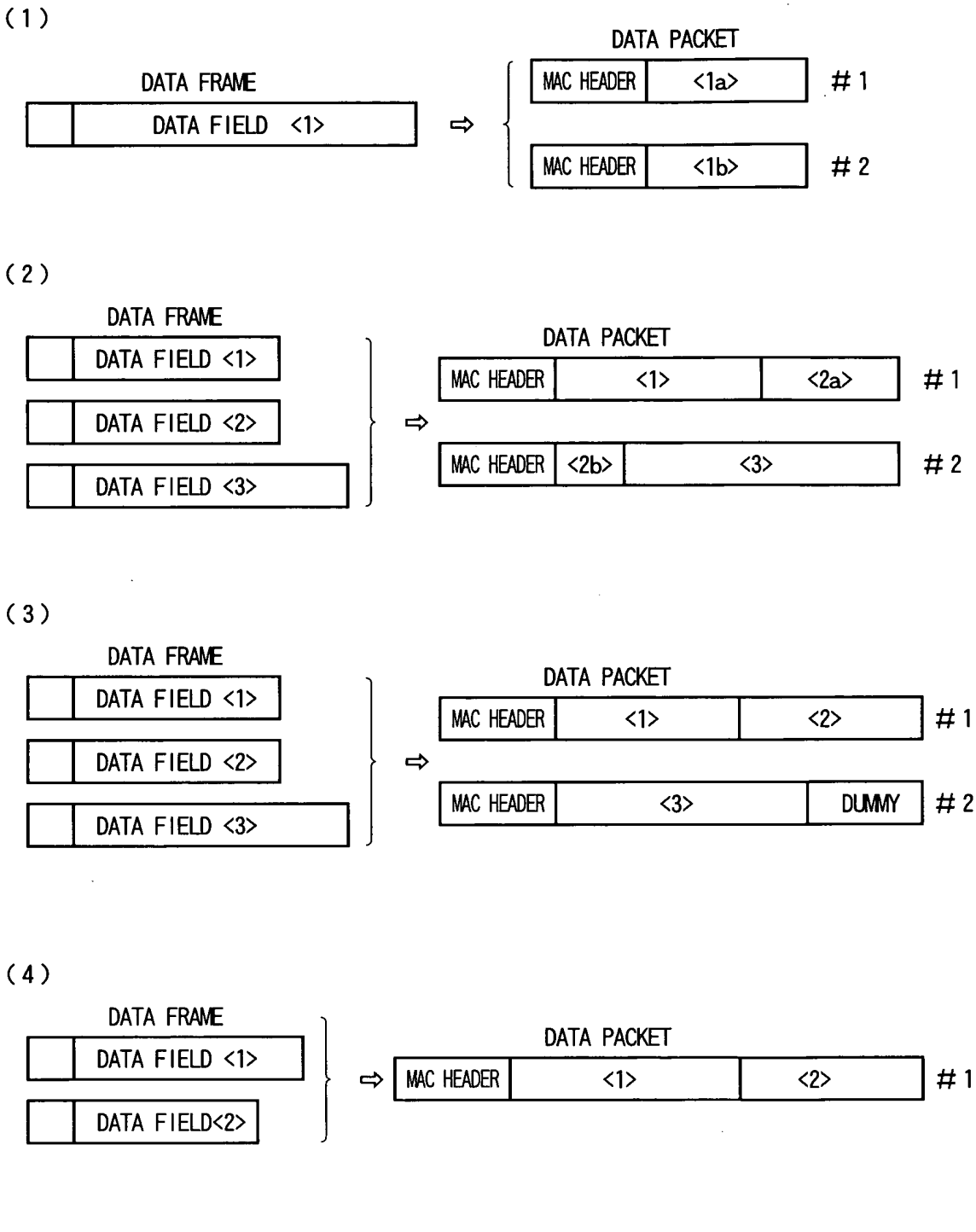
FIG. 24